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#### Working Party on Passive Safety

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Item 7 of the provisional agenda

#### UN Regulation No. 16 (Safety-belts)

## **Proposal for a New UN Regulation on Safety-Belt Reminders \***

### **Submitted by the Ad Hoc Group on splitting UN Regulation No. 16 (Safety-belts)**

The text reproduced below was prepared by the experts of the Ad Hoc Group on splitting UN Regulation No. 16 into three new UN Regulations, separating safety-belt components and restraint systems from safety-belt installation requirements and safety-belt reminders.

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\* In accordance with the programme of work of the Inland Transport Committee for 2024 as outlined in proposed programme budget for 2024 (A/78/6 (Sect. 20), table 20.5), the World Forum will develop, harmonize and update UN Regulations in order to enhance the performance of vehicles. The present document is submitted in conformity with that mandate.

# I. Proposal

## "UN Regulation No. XXX

### Uniform Provisions Concerning the Approval of a Vehicle with regard to Safety-Belt Reminders

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\*\* Page numbers will be added at a later stage.

## 0. Introduction

During the seventy-third session of the Working Party on Passive Safety (GRSP) held in May 2023, it was decided to split UN Regulation No. 16 into three UN Regulations:

- safety-belts and restraint systems (components)
- safety-belts and child restraint systems installation (vehicle)
- safety-belt reminders (vehicle)

UN Regulation No. XXX consists of the specific requirements and approval process of a vehicle type with regard to its safety-belt reminders. The requirements are derived from UN Regulation No. 16 as amended by the 09 series of amendments. From a technical point of view, the requirements are identical. Therefore, it is important to define clear transitional provisions in the updated UN Regulation No. 16 as amended by the 10 series of amendments, explaining the equivalence between approvals issued according to this UN Regulation and UN Regulation No. 16 as amended by the 09 series of amendments.

## 1. Scope

This Regulation applies to all seating positions in vehicle categories M and N fitted with safety belt with regard to safety-belt reminders.<sup>1</sup>

## 2. Definitions

- 2.1. "*Safety-belt reminder*", means a system dedicated to alert the driver when any of the occupants do not use the safety-belt. The system is constituted by a detection of an unfastened safety-belt and by two levels of driver's alert: a first level warning and a second level warning.
- 2.2. "*Visual warning*" means a warning by visual signal (lighting, blinking or visual display of symbol or message).
- 2.3. "*Audible warning*" means a warning by sound signal.
- 2.4. "*First level warning*" means a visual warning activated when the ignition switch or master control switch is activated and any of the occupants' safety-belt is not fastened. An audible warning can be added as an option.
- 2.5. "*Second level warning*" means a visual and audible warning activated when the vehicle is operated in accordance with paragraphs 8.4.2.4.1.1. to 8.4.2.4.1.3. and when the safety-belt is or becomes unfastened, depending on the relevant seating position requirement.
- 2.6. "*Safety-belt is unfastened*" means, at the option of the manufacturer, either the safety-belt buckle of any occupant is not engaged or the length of the pulled out webbing is less than the length of the webbing which is needed to buckle an un-occupied seat in the rear most seating position.
- 2.7. "*Vehicle is in normal operation*" means that vehicle is in forward motion at the speed greater than 10 km/h.
- 2.8. "*Vehicle type with regard to its Safety-belt reminder*" means vehicles which do not differ with regard to the location of the visual warning, type of audible

<sup>1</sup> As defined in the Consolidated Resolution on the Construction of Vehicles (R.E.3), document ECE/TRANS/WP.29/78/Rev.7, para. 2 - <https://unece.org/transport/standards/transport/vehicle-regulations-wp29/resolutions>

- warning, first level warning and second level warning strategy and maximum number of seating positions.
- 2.9. *"Safety-belt (seat-belt, belt)"* means an arrangement of straps with a securing buckle, adjusting devices and attachments which is capable of being anchored to the interior of a power-driven vehicle and is designed to diminish the risk of injury to its wearer, in the event of collision or of abrupt deceleration of the vehicle, by limiting the mobility of the wearer's body. Such an arrangement is generally referred to as a "belt assembly", which term also embraces any device for absorbing energy or for retracting the belt.
- 2.9.1. *"Lap belt"* means a two-point belt which passes across the front of the wearer's pelvic region.
- 2.9.2. *"Diagonal belt"* means a belt which passes diagonally across the front of the chest from the hip to the opposite shoulder.
- 2.9.3. *"Three-point belt"* means a belt which is essentially a combination of a lap strap and a diagonal strap.
- 2.9.4. *"S-type belt"* means a belt arrangement other than a three-point belt or a lap belt.
- 2.9.5. *"Harness belt"* means an S-type belt arrangement comprising a lap belt and shoulder straps; a harness belt may be provided with an additional crotch strap assembly.
- 2.10. *"Strap"* means a flexible component designed to hold the body and to transmit stresses to the belt anchorages.
- 2.11. *"Buckle"* means a quick-release device enabling the wearer to be held by the belt. The buckle may incorporate the adjusting device, except in the case of a harness belt buckle.
- 2.12. *"Belt adjusting device"* means a device enabling the belt to be adjusted according to the requirements of the individual wearer and to the position of the seat. The adjusting device may be part of the buckle, or a retractor, or any other part of the safety-belt.
- 2.13. *"Retractor"* means a device to accommodate part or the whole of the strap of a safety-belt.
- 2.14. *"Seat"* means a structure which may or may not be integral with the vehicle structure complete with trim, intended to seat one adult person. The term covers both an individual seat or part of a bench seat intended to seat one person.
- 2.14.1. *"A front passenger seat"* means any seat where the "foremost H-point" of the seat in question is in or in front of the vertical transverse plane through the driver's R-point.
- 2.14.2. *"Forward-facing seat"* means a seat which can be used while the vehicle is in motion and which faces towards the front of the vehicle in such a manner that the vertical plane of symmetry of the seat forms an angle of less than +10° or -10° with the vertical plane of symmetry of the vehicle.
- 2.14.3. *"Rearward-facing seat"* means a seat which can be used while the vehicle is in motion and which faces towards the rear of the vehicle in such a manner that the vertical plane of symmetry of the seat forms an angle of less than +10° or -10° with the vertical plane of symmetry of the vehicle.
- 2.14.4. *"Side-facing seat"* means a seat which can be used while the vehicle is in motion and which faces towards the side of the vehicle in such a manner that the vertical plane of symmetry of the seat forms an angle of 90° ( $\pm 10^\circ$ ) with the vertical plane of symmetry of the vehicle.

- 2.15. *"Group of seats"* means either a bench-type seat or seats which are separate but side by side (i.e. fixed so that front seat anchorages of one of these seats are in line with the front of the rear anchorages of the other or between the anchorages of the other seat) and accommodate one or more seated adult persons.
- 2.16. *"Bench seat"* means a structure complete with trim, intended to seat more than one adult person.
- 2.17. *"Seat anchorage"* means the system by which the seat assembly is secured to the vehicle structure, including the affected parts of the vehicle structure.

### **3. Application for Approval**

- 3.1.1. The application for approval of a vehicle type with regard to the safety-belt reminder shall be submitted by the vehicle manufacturer or by a duly accredited representative.
- 3.1.2. It shall be accompanied by the under mentioned documents and the following particulars:
- 3.1.2.1. Drawings of the general vehicle structure on an appropriate scale, showing the positions of the safety-belts;
- 3.1.2.2. A description of the type of safety-belts;
- 3.1.2.3. A description of the safety-belt reminder system.
- 3.1.3. A vehicle representative of the vehicle type to be approved shall be submitted to the Technical Service.

### **4. Approval**

- 4.1. A certificate conforming to the model specified in Annex 1 shall be attached to the type approval certificate.
- 4.2. If the vehicle submitted for approval pursuant this Regulation meets the requirements of paragraph 5. below, and of Annex 3 to this Regulation, approval of that vehicle type shall be granted.
- 4.3. An approval number shall be assigned to each type approved. Its first two digits (00 for this Regulation in its initial form) shall indicate the series of amendments incorporating the most recent major technical amendments made to this Regulation at the time of issue of the approval. The same Contracting Party shall not assign the same number to another vehicle type as defined in paragraph 2.8. above.
- 4.4. Notice of approval or of extension or refusal or withdrawal of approval or production definitively discontinued of a vehicle type pursuant to this Regulation shall be communicated to the Parties to the 1958 Agreement which apply this Regulation by means of a form conforming to the model in Annex 1 to this Regulation.
- 4.5. There shall be affixed, conspicuously and in a readily accessible place specified on the approval form, to every vehicle conforming to a vehicle type approved under this Regulation an international approval mark consisting of:
- 4.5.1. A circle surrounding the letter "E" followed by the distinguishing number of the country which has granted approval;<sup>2</sup>

<sup>2</sup> The distinguishing numbers of the Contracting Parties to the 1958 Agreement are reproduced in Annex 3 to the Consolidated Resolution on the Construction of Vehicles (R.E.3), document ECE/TRANS/WP.29/78/Rev.7, Annex 3 - <https://unece.org/transport/standards/transport/vehicle-regulations>

- 4.5.2. The number of this Regulation, followed by the letter R, a dash and the approval number to the right of the circle prescribed in paragraph 4.5.1. above.
- 4.6. The approval mark shall be clearly legible and be indelible.
- 4.7. The approval mark shall be placed close to or on the vehicle data plate affixed by the manufacturer.
- 4.8. Annex 2 to this Regulation gives an example of the arrangement of the approval mark.

## 5. General Specifications

- 5.1. Requirements per specific seating position and exemptions
  - 5.1.1. The seating position of the driver of M and N categories of vehicles <sup>3</sup> as well as the seating positions of the occupants of seats in the same row as the driver seat of M and N categories of vehicles shall be equipped with a safety-belt reminder satisfying the requirements of paragraph 5.3.
  - 5.1.2. All seating positions of the rear seat row(s) of M<sub>1</sub> and N<sub>1</sub> category vehicles <sup>3</sup> shall be equipped with a safety-belt reminder satisfying the requirements of paragraph 5.4.

Where the vehicle manufacturer provides a safety-belt reminder system on a rear seating position in another category of vehicle, the safety-belt reminder system may be approved according to this Regulation.
  - 5.1.3. A safety-belt reminder is not compulsory on folding seats (i.e. normally folded and designed for occasional use, e.g. foldable crew seats in the buses and coaches) as well as seating positions fitted with an S-type belt (including harness belt).

Notwithstanding paragraphs 5.1.1. and 5.1.2. above, safety belt reminders are also not required for rear seats in ambulances, hearses and motor-caravans, as well as for all seats for vehicles used for transport of disabled persons, vehicles intended for use by the armed services, civil defence, fire services and forces responsible for maintaining public order.
- 5.2. General requirements
  - 5.2.1. Visual warning
    - 5.2.1.1. The visual warning shall be so located as to be readily visible and recognisable in the daylight and at night time by the driver and distinguishable from other alerts.
    - 5.2.1.2. The visual warning shall be a steady or flashing tell-tale.
  - 5.2.2. Audible warning
    - 5.2.2.1. The audible warning shall consist of a continuous or an intermittent (pauses shall not exceed 1 second) sound signal or of continuous vocal information. Where vocal information is employed, the vehicle manufacturer shall ensure that the alert is able to employ the languages of the market into which the vehicle is intended to be placed.
    - 5.2.2.2. Audible warning shall be easily recognized by the driver.
  - 5.2.3. First level warning
    - 5.2.3.1. The first level warning shall be at least a visual warning activated for 30 seconds or longer for seating positions covered by paragraph 5.1.1. and for

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<sup>3</sup> As defined in the Consolidated Resolution on the Construction of Vehicles (R.E.3), document ECE/TRANS/WP.29/78/Rev.7, para. 2 - <https://unece.org/transport/standards/transport/vehicle-regulations-wp29/resolutions>

- 60 seconds or longer for seating positions covered by paragraph 5.1.2. when the safety-belt of any of the seats is not fastened and the ignition switch or master control switch is activated
- 5.2.3.2. The first level warning may be discontinued when:
- (a) None of the safety-belts which triggered the warning are unfastened; or
  - (b) The seat or seats which triggered the warning are no longer occupied.
- 5.2.3.3. The activation of the first level warning shall be tested according to the test procedure defined in Annex 3, paragraph 1.
- 5.2.4. Second level warning
- 5.2.4.1. The second level warning shall be a visual and audible signal activated for at least 30 seconds not counting periods in which the warning may stop for up to 3 seconds when at least one or any combination of the conditions at the choice of manufacturer, set out in paragraphs 6.2.4.1.1. to 6.2.4.1.3. is/are fulfilled. The second level warning shall supersede the first level warning when the first level warning is still active.
- 5.2.4.1.1. The distance driven greater than the distance threshold. The threshold shall not exceed 500 m. The distance driven when the vehicle is not in normal operation shall be excluded.
- 5.2.4.1.2. The vehicle speed greater than the speed threshold. The threshold shall not exceed 25 km/h.
- 5.2.4.1.3. The duration time (engine running, propulsion system activated, etc.) is greater than the duration time threshold. The threshold shall not exceed 60 seconds. The first level warning duration time and the duration time when the vehicle is not in normal operation shall be excluded.
- 5.2.4.2. The thresholds to trigger safety belt reminder listed in paragraphs 5.2.4.1.1. to 5.2.4.1.3., may be reset when:
- (a) Any of the doors have been opened while the vehicle is not in normal operation; or
  - (b) The seat or seats which triggered the warning are no longer occupied.
- 5.2.4.3. The second level warning may be discontinued when:
- (a) None of the safety-belts which triggered the warning are unfastened;
  - (b) The vehicle ceases to be in normal operation; or
  - (c) The seat or seats which triggered the warning are no longer occupied.
- 5.2.4.4. The second level warning shall be resumed for the remainder of the required duration when one or any combination of the conditions, at the choice of the manufacturer, set out in paragraphs 5.2.4.1.1. to 5.2.4.1.3. is/are again fulfilled.
- 5.2.4.5. For the condition that a safety belt becomes unfastened pursuant to paragraphs 5.3.3. and 5.4.5., the thresholds set out in paragraphs 5.2.4.1.1. to 5.2.4.1.3. shall be measured from the point in time at which unfastening occurs.
- 5.2.4.6. The activation of the second level warning shall be tested according to the test procedure defined in Annex 3, paragraph 2.
- 5.3. Safety-belt reminder for driver and occupants of seats in the same row as the driver.
- 5.3.1. Safety-belt reminders for driver and occupants of seats in the same row as the driver shall fulfil the requirements set out in paragraph 5.2.
- 5.3.2. The colour and symbol of the visual warning shall be as defined in item 21 in Table 1 of UN Regulation No. 121.

- 5.3.3. The second level warning shall be activated when a safety-belt is or becomes unfastened while the vehicle is in normal operation and while, at the same time, any one condition or any combination of the conditions, at the choice of the manufacturer, set out in paragraphs 5.2.4.1.1. to 5.2.4.1.3. is satisfied.
- 5.4. Safety-belt reminder for occupants of rear seat row(s).
- 5.4.1. Safety-belt reminders for occupants of rear row(s) shall fulfil the requirements set out in paragraph 5.2.
- 5.4.2. The visual warning shall indicate at least all rear seating positions to allow the driver to identify, while facing forward as seated on the driver seat, any seating position in which the safety-belt is unfastened. For vehicles that have information on the occupancy status of the rear seats, the visual warning does not need to indicate unfastened safety-belts for unoccupied seating positions. For seats, which can be fixed to different designated seating positions within the vehicle (e.g. floor rail mounted), the visual warning shall at least indicate when any rear safety belt is unfastened.
- 5.4.3. The colour of the visual warning may be other than red and the symbol of the visual warning for safety-belts covered by paragraph 5.1.2. may contain different symbols other than defined in Regulation No.121. In addition, the first level warning of seating positions covered by paragraph 5.1.2. may be cancellable by the driver by a deliberate action.
- 5.4.4. A common tell-tale may be used for safety-belts covered by paragraphs 5.1.1 and 5.1.2.
- 5.4.5. The second level warning shall be activated when a safety-belt becomes unfastened while the vehicle is in normal operation, or at the choice of the manufacturer when the safety-belt is or becomes unfastened while the vehicle is in normal operation, and while, at the same time, any one condition or any combination of the conditions, at the choice of the manufacturer, set out in paragraphs 5.2.4.1.1. to 5.2.4.1.3. is satisfied.
- 5.5. The safety-belt reminder may be designed to allow deactivation.
- 5.5.1. In the case that a short-term deactivation is provided, it shall be significantly more difficult to deactivate the safety-belt reminder than buckling the safety-belt on and off (i.e. it shall consist of an operation of specific controls that are not integrated in the safety-belt buckle) and this operation shall only be possible when the vehicle is stationary. When the ignition or master control switch is deactivated for more than 30 minutes and activated again, a short-term deactivated safety-belt reminder shall reactivate. It shall not be possible to provide short-term deactivation of the relevant visual warning(s).
- 5.5.2. In the case that a facility for a long-term deactivation is provided, it shall require a sequence of operations to deactivate, that are detailed only in the manufacturer's technical manual and/or which requires the use of tools (mechanical, electrical, digital, etc.) that are not provided with the vehicle. It shall not be possible to provide long-term deactivation of the relevant visual warning(s).
- 5.6. Requirement for the connection of a safety-belt reminder system for removable seats.
- 5.6.1. Removable seats without manual connection.
- 5.6.1.1. The connection shall be automatic when the seat is installed in the vehicle.
- 5.6.2. Removable seats with manual connection.
- 5.6.2.1. The connectors of the removable seats shall be easily visible during the installation process.



- 5.6.2.2. The vehicle shall carry a label indicating the purpose of the connection, and the connection and disconnection methods of the safety-belt reminder system, in the form of a pictogram which may include explanatory text.
- 5.6.2.3. The label shall be permanently attached to the vehicle and located such that it is clearly visible during the installation process.
- 5.6.2.4. In case a connector is misconnected or disconnected for removable seating positions covered by paragraph 5.1.1., a warning visible to the driver shall be activated for 30 seconds when the ignition switch or master control switch is activated.
- 5.6.2.5. When a seat is removable for seating positions covered by paragraph 5.1.2., the visual warning of paragraph 5.4.2. shall indicate at least all rear seating position to allow the driver to identify, while facing forward as seated on the driver seat, any removable seating position in which the connector is misconnected or disconnected, and it shall be activated for 60 seconds when the ignition switch or master control switch is activated.
- For seats, which can be fixed to different designated seating positions within the vehicle (e.g. floor rail mounted), the visual warning shall at least indicate when any rear removable seating position connector is misconnected or disconnected.
- 5.6.3. The presence or absence of the removable seat shall not adversely affect the functioning of the safety-belt reminder system of other seating position.
- 5.6.4. The safety-belt reminder system of the removable seats shall not give any false indication of belt use, whether the seats are installed in the vehicle or not.

## **6. Conformity of Production**

The conformity of production procedures shall comply with those set out in the Agreement, (Schedule 1 E/ECE/TRANS/505/Rev.3), with the following requirements:

- 6.1. Suitable controls of the production shall be carried out. In this case, suitable controls mean checking the existence of procedures for the effective control of the quality of products as to conform to the type approved by meeting the requirements set forth in paragraphs 5. above.
- 6.2. The competent authority which has granted the Type Approval may at any time verify the conformity control methods applicable to each production unit and carry out on samples any test deemed necessary among the tests carried out for the approval. The normal frequency of these verifications shall be once a year.

## **7. Penalties for Non-Conformity of Production**

- 7.1. The approval granted in respect of a vehicle may be withdrawn if the requirement laid down in paragraph 6.1. above is not complied with, or if the selected vehicle(s) have failed to pass the checks prescribed in paragraph 6.2. above with regard to its safety-belt reminder.
- 7.2. If a Contracting Party to the Agreement applying this Regulation withdraws an approval it has previously granted, it shall forthwith so notify the other Contracting Parties applying this Regulation by means of a communication form conforming to the model in Annex 1 to this Regulation.

## **8. Modifications and Extension of Approval**

- 8.1. Every modification of the vehicle type which affects its technical performance and/or documentation as required in this Regulation shall be notified to the Type Approval Authority which approved the vehicle type the Authority may then either:
  - 8.1.1. Consider that the modifications made are unlikely to have an appreciable adverse effect and that in any case the vehicle still complies with the requirements; or
  - 8.1.2. Require a further test report from the Technical Service responsible for conducting the tests.
- 8.2. Confirmation or refusal of approval, specifying the alterations, shall be communicated by the procedure specified in paragraph 5.4. of this Regulation to the Parties to the Agreement applying this Regulation.
- 8.3. The Type Approval Authority issuing the extension of approval shall assign a series number for such an extension and inform thereof the other parties to the 1958 Agreement applying this Regulation by means of a communication form conforming to the model in Annex 1 to this Regulation.

## **9. Production Definitively Discontinued**

If the holder of the approval completely ceases to manufacture a vehicle approved in accordance with this Regulation, the holder shall so inform the Type Approval Authority which granted the approval. Upon receiving the relevant communication that Authority shall inform thereof the other Parties to the 1958 Agreement applying this Regulation by means of a communication form conforming to the model in Annex 1 to this Regulation.

## **10. Names and Addresses of Technical Services Responsible for Conducting Approval Tests and of Type Approval Authorities**

The Contracting Parties to the 1958 Agreement applying this Regulation shall communicate to the United Nations secretariat the names and addresses of the Technical Services responsible for conducting approval tests and of the Type Approval Authorities which grant approval and to which forms certifying approval or refusal or extension or withdrawal of approval, issued in other countries, are to be sent.



- 3.1.3. Characteristics: description and drawings of: (provide where relevant)
  - 3.1.3.1. The seats and their anchorages .....
  - 3.1.3.2. The adjustment system .....
  - 3.1.3.3. The displacement and locking systems .....
  - 3.1.3.4. The seat belt anchorages if incorporated in the seat structure.....
- 3.2. Safety-belts and/or other restraint systems and safety-belt reminders
  - Number and position of safety-belts or restraint systems and safety-belt reminders and seats on which they can be used .....

		<i>Complete type approval mark</i>	<i>Variant (if applicable)</i>	<i>Safety-belt reminder (indicate yes/no/optional)</i>
First row of seats	R			
	C			
	L			
Second row of seats	R			
	C			
	L			
(R = right-hand seats, C = centre seats, L = left hand seats)				

- 4. Place .....
- 5. Date.....
- 6. Signature.....

## Annex 2

### Arrangements of Approval Marks

(see paragraphs 4.5. to 4.5.2. of this Regulation)



$a = 8 \text{ mm min.}$

The above approval mark affixed to a vehicle shows that the vehicle type concerned was approved in the Netherlands (E4) pursuant to UN Regulation No. XXX under approval No. 001234. The first two digits (00) of the approval number indicate that the approval was granted in accordance with the requirements of UN Regulation No. XXX in its original form.

## Annex 3

### Safety-Belt Reminder Tests

1. The first level warning shall be tested according to the following conditions:
  - (a) Safety-belt is not fastened;
  - (b) Engine or propulsion system is stopped or idling, and the vehicle is not in forward or reverse motion;
  - (c) Transmission is in neutral position;
  - (d) Ignition switch or master control switch is activated.
  - (e) A load of 40 kg is placed on each seat cushion in the same row as the driver's seat, or the state in which occupants are on board the vehicle is simulated by an alternative method specified by the vehicle manufacturer, provided an occupant's load does not exceed 40 kg.

This may also be done for the rear seats at the request of the vehicle manufacturer.

Or alternatively (at the choice of the manufacturer):

An object or human representing a 5<sup>th</sup> percentile adult female <sup>1</sup> is placed on each seat cushion as specified by the manufacturer in the same row as the driver seat, or

the state in which occupants representing a 5th percentile adult female <sup>1</sup> are on board the vehicle is simulated by an alternative method specified by the vehicle manufacturer as agreed by the technical service and the approval authority.

This may also be done for the rear seats at the request of the vehicle manufacturer.
  - (f) The state of the safety-belt reminder is checked for all of the relevant seat(s), in conditions (a) to (e).
2. The second level warning shall be tested according to the conditions set out in paragraphs 2.1. to 2.3. of this annex, respectively.
  - 2.1. Testing the driver's seating position
    - 2.1.1. Testing the driver's seat when the safety-belt is unfastened before the journey:
      - (a) The safety-belt of the driver's seat is not fastened;
      - (b) The safety-belts of seats other than the driver's seat are fastened;
      - (c) Test vehicle driven with one or any combination of the conditions of paragraphs 2.1.1.1. to 2.1.1.3. of this annex at the manufacturer's choice;
      - (d) The state of the safety-belt reminder is checked for the driver's seat, in conditions (a) to (c).
    - 2.1.1.1. Accelerate the test vehicle to 25 -0/+10 km/h from a halt and continue on at the same speed.

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<sup>1</sup> The technical specifications and detailed drawings of Hybrid III, corresponding to the principal dimensions of a fifth percentile female of the United States of America, and the specifications for its adjustment for this test are deposited with the Secretary-General of the United Nations and may be consulted on request at the secretariat of the Economic Commission for Europe, Palais des Nations, Geneva, Switzerland. A female who weighs between 46.7 and 51.25 kg, and who is between 139.7 and 150 cm tall may be used.

- 2.1.1.2. The test vehicle is driven forward at least 500 m in normal operation from a halt position.
- 2.1.1.3. The vehicle is tested when the vehicle is in normal operation for at least 60 seconds.
- 2.1.2. Testing the driver's seat when the safety-belt becomes unbuckled during the journey.
- (a) The safety-belts of the driver's seat and seats other than the driver's seat are fastened;
  - (b) the vehicle is in normal operation;
  - (c) The safety-belt of the driver's seat is unbuckled;
  - (d) The test vehicle is driven, at the choice of the manufacturer, under one of the conditions in paragraphs 2.1.2.1. to 2.1.2.3. of this annex or a combination thereof.
- 2.1.2.1. Accelerate the test vehicle to 25 -0/+10 km/h continue on at the same speed.
- 2.1.2.2. The test vehicle is driven forward at least 500 m from the safety-belt unbuckling.
- 2.1.2.3. The test vehicle is driven forward for at least 60 seconds from the safety-belt unbuckling.
- 2.2. Testing the seating position(s) in the same row as the driver's seat.
- 2.2.1. Testing the seat(s) in the same row as the driver's seat when the safety-belt is unfastened before the journey:
- (a) The safety-belt(s) of the seat(s) in the same row as the driver's seat is/are not fastened;
  - (b) The safety-belts of the seats other than the seat(s) in the same row as the driver's seat are fastened;
  - (c) A load of 40 kg is applied to the seat(s) in the same row as the driver's seat, or the state in which occupants are on board the vehicle is simulated by a method specified by the manufacturer, provided an occupant's load does not exceed 40 kg.  
  
Or alternatively (at the choice of the manufacturer):  
  
An object or human representing a 5<sup>th</sup> percentile adult female is placed on each seat cushion as specified by the manufacturer in the same row as the driver seat, or the state in which occupants are on board the vehicle is simulated by an alternative method specified by the vehicle manufacturer as agreed by the Technical Service and the Type Approval Authority. This may also be done for the rear seats at the request of the vehicle manufacturer.
  - (d) The test vehicle is driven, at the choice of the manufacturer, under one of the conditions in paragraphs 2.1.1.1. to 2.1.1.3. of this annex or combination thereof;
  - (e) The state of the safety-belt reminder is checked for all of the seat(s) in the same row as the driver's seat, in conditions (a) to (d).
- 2.2.2. Testing the seating position in the same row as the driver's seat when the safety-belt becomes unbuckled during the journey.
- (a) The safety-belts of the driver's seat and seats other than the driver's seat are fastened;
  - (b) A load of 40 kg is applied to the seat(s) in the same row as the driver's seat, or the state in which occupants are on board the vehicle is simulated by a method specified by the manufacturer, provided an occupant's load does not exceed 40 kg;

Or alternatively (at the choice of the manufacturer):

An object or human representing a 5<sup>th</sup> percentile adult female is placed on each seat cushion as specified by the manufacturer in the same row as the driver seat, or the state in which occupants representing a 5th percentile adult female <sup>1</sup> are on board the vehicle is simulated by an alternative method specified by the vehicle manufacturer as agreed by the technical service and the approval authority. This may also be done for the rear seats at the request of the vehicle manufacturer;

- (c) The vehicle is in normal operation;
- (d) The safety-belt of seats other than the driver's seat is unbuckled;
- (e) The test vehicle is driven, at the choice of the manufacturer, under one of the conditions in paragraphs 2.1.2.1. to 2.1.2.3. of this annex or a combination thereof;
- (f) The state of the safety-belt reminder is checked for all of the seat(s) in the same row as the driver's seat, for each condition (a) to (e).

2.3. Testing the rear seats:

- (a) With the test vehicle stationary, the safety-belts of all seats are fastened;
- (b) The test vehicle is put in normal operation and kept running;
- (c) The safety-belt of one of the rear seats is unfastened;
- (d) The functioning of the safety-belt reminder is checked for all of the seating positions in all seating rows;
- (e) Alternatively, at the request of the vehicle manufacturer, the test procedures specified in paragraphs 2.2. to 2.2.2. for the seating position(s) in the same row as the driver's seat may be used for any rear seating position instead.

3. The first level warning test shall have a duration of at least the minimum required time as specified in paragraph 5.2.3. of this Regulation for the first level warning. The second level warning test may be initiated after completion of the first level warning test. However, it shall also be ensured that the second level warning supersedes the first level warning when the first level warning is still active."

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<sup>1</sup> The technical specifications and detailed drawings of Hybrid III, corresponding to the principal dimensions of a fifth percentile female of the United States of America, and the specifications for its adjustment for this test are deposited with the Secretary-General of the United Nations and may be consulted on request at the secretariat of the Economic Commission for Europe, Palais des Nations, Geneva, Switzerland. A female who weighs between 46.7 and 51.25 kg, and who is between 139.7 and 150 cm tall may be used.